

CLAIMS

1. A method for manufacturing a liquid discharge head comprising the steps of:

5 forming a solid layer for forming a flow path on a substrate on which an energy generating element is arranged to generate energy that is used to discharge liquid; forming, on the substrate where the solid layer is mounted, a coating layer for coating
10 the solid layer;

forming a discharge port used to discharge a liquid, through a photolithographic process, in the coating layer formed on the solid layer; and

removing the solid layer to form a flow path
15 that communicates with the energy element and the discharge port,

whereby a material used for the coating layer contains a cationically polymerizable chemical compound, cationic photopolymerization initiator and
20 a inhibitor of cationic photopolymerization, and

whereby a material of the solid layer that forms a boundary with a portion where the discharge port of the coating layer is formed contains a copolymer of methacrylic anhydride and methacrylate
25 ester.

2. A method according to claim 1, whereby the copolymer of methacrylic anhydride and methacrylate

ester has a weight-average molecular weight of 20000 to 100000 and a ratio of a content of methacrylic anhydride of 5 to 30 weight% relative to the copolymer.

5 3. A method according to claim 2, whereby the copolymer is a copolymer of methacrylic anhydride and methyl methacrylate.

4. A method according to claim 1, whereby the inhibitor of cationic photopolymerization is a basic 10 material having a pair of nonshared electrons.

5. A method according to claim 4, whereby the inhibitor of cationic photopolymerization is a nitrogen-containing compound having a pair of nonshared electrons.

15 6. A method according to claim 5, whereby the inhibitor of cationic photopolymerization is an amine compound.

7. A method according to claim 1, whereby the step of forming the solid layer includes the steps 20 of:

forming, on the substrate, a first positive type photosensitive material layer that is exposed to ionizing radiation of a first wavelength,
forming, on the first positive type 25 photosensitive material layer, a second positive type photosensitive material layer that is exposed to ionizing radiation of a second wavelength that is

different from the first wavelength,
irradiating the ionizing radiation of the
second wavelength to the substrate where the first
and the second positive type photosensitive material
5 layers are formed, and forming a desired pattern on
the second positive type photosensitive material
layer, and

irradiating the ionizing radiation of the first
wavelength to the substrate where the first and the
10 second positive type photosensitive material layers
are formed, and forming a desired pattern on the
first positive type photosensitive material layer;
and whereby the second positive type photosensitive
material layer forms the boundary with the coated
15 layer.

8. A method according to claim 7, whereby a
material for forming the first positive type
photosensitive material layer contains
polymethylisopropenylketone.

20 9. A liquid discharge head manufactured by a
method according to one of claims 1 to 8, wherein a
discharge port formation material used for forming a
discharge port for the liquid discharge head contains
a cationically polymerizable chemical compound, a
25 cationic photopolymerization initiator and a
inhibitor of cationic photopolymerization.